TS Bulletin

News Suppl.#S4-1990

An Amateur Publication via piggy-bank
press, of Bill Harmer, 97 Ruskin Street,
Ottawa, Ont., Canada K1Y 4B3 - - -
Apr.,1990-TS Bulletin News Supl.#S4-1990

© May. 1990 in the public domain

April,'90 issue of The Hacker from Las Vegas arrived with reports by Chris Fenn of the Z-88 notebook computer, its soon to be available 1 meg RAM cartridge, offering extra (if really needed) capacity compared to the ½ meg RAM cart. Also pointed to was a review of a book on the Z-88, "Z-88 Magic" by Vic Gerhardi, The review was in a recent issue of the magazine Byte, and by Jerry Pournelle.

Last contact with Larry Kenny of Larken El., found him still working on the desktop publisher with spelling checker for the TS2068. He has also become even more of a convert to Pascal than before. The writer of this has also tried Pascal and concluded that it will be a continuing interest, but now has gone on to sample C language and wishes to take a sight-seeing tour through the other languages. Hot these days are Clipper and dBase III plus languages, with programs and systems being written entirely in them rather than conventional languages (BASIC, COBOL, Pascal, C, assembler etc). These new languages are in the process of revolutionizing computer programming and Clipper User Gps. in particular are springing up everywhere.

SMUG, March,1990 n/l published more of a BASIC listing for TS2068 of a Checkbook and Budget Manager by R.A. Hilsman. A TS1000 version is available also. Also the programmer, can furnish the program on tape or Oliger disk(state disk format, 80/40 etc) for US$5. R.A.Hilsman, P.O.B. 45, Men. Falls,WI,USA 53051

RMG Enterprises,1419½ 7th St.,Oregon City,OR,USA 97045 has videos of TS Mini-Fair VHS, US$16 to USA address pp., US$18 to Canada pp.(topics,ZX,TS,QL). catalog$3.

John McMichael,1710 Palmer Dr., Laramie,WY,USA82070 is offering support to TS users (TS2068) of Okimate printers. Send LSASE for info on software supporting Oki. He also offers software support for the SMUG , TS2068 digitizer board.

Laser PC3 notebook computer avail. via Sears Roebuck USA, seems like a Z-80 based Z-88 competitor. 32K RAM, 4AA batt. power, built-in word proc, alarm clocks, spread sheet, auto dialer, printer i/f (ser.& par.), spelling dict. US$160 approx.

Vulcan Computer Buyers Guide looks like Computer Shopper & covers orphans as it did.

ISTUG Indiana n/l JAN,1990 features an article by Mike Felerski on making a parallel printer cable that runs off the Rotonics Wafadrive for the TS2068 using Radio Shack parts.

Mike Felerski has launched The Sinclair Desktop Publishing Journal for the TS2068 for desktop pub, word processing & graphic editing/processing programs for TS community and 1st issue covers Byte Power The Print Factory (Byte Power is at 1748 Meadowview Ave., Pickering, Ont.,Canada L1V 3G8) and also mentions Stan Lemke's Pixel Print, Tasword Spelling Checker(in development). The mag will be quarterly, Jan.,Apr.,July, Oct. for 50¢ per issue -sample issue is 2 pages long & published in Jan.'90 ISTUG n/l. For the mag contact:Sinclair Desktop Publ. Journal, 1284 Brushwood Ave.,Cincinnati,OH,USA 45224. Backissue available.

LKDOS users may wish to use Bob Swoger's simplified operating sys. shell AOSDOS for their system if they have version#3 of the eprom (nec. for AOSDOS to work) contact Bob via Chicago n/l, Nite-Time News,613 Parkside Circle,Streamwood,IL, USA 60107. Donald Lambert mentioned this in his CRAGIST n/l recently.

Looking for/Do you have?-manual/software for ZAD Board & TS1000 Zebra Talker,also info on using slow eproms with TS1000.Don Lambert,3310 Clover Dr.SW,Cedar Rapids, IA,USA 52404....new or used hdware/software TS2068/QL/Z-88 will be bought by Eliad Wannum,P.O.B.1095,Peru,IN,USA46970, send SASE & list of what you have 1st ....BBS for TS1000? Micro-BBS-1 & Tiny board sought by S.Blackford,RR1,Box552, Mercer,MD,USA64661....Partial Pascal, Tiny C for TS1000/TS2068, contact B.Harmer,97 Ruskin St.,Ottawa,ON,Canada K1Y 4B3....Articles on TS1000/TS2068/QL, just about every club n/l editor is begging for them, see your article pub.in New York, Boston, Washington,D.C., Toronto,Vancouver!!!....

Who published this newsletter? One person, just interested in documenting the hobby field of low cost home computing. Sent to user groups only.(and a few friends)

News in IBM PC Land: Norton Backup using advanced data compression is new as is Weird Dreams, a game in which you 'wake up', staring up at surgeons and enter a surrealistic world (from England). Also Spinnaker's One Person Office is new. MS Professional BASIC compiler(updated MS BASIC)is also in the stores.----

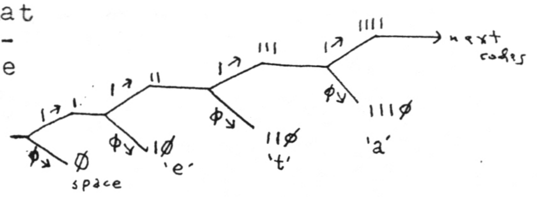
Data Compression: Saving Memory With ARC, ZIP or SQ

Data compression utilities will reduce the size in bytes of a text file and the latest ones, also of a program in compiled form and save on storage space on disk. The utilities will, on running the compressed program through them, be restored to exactly the same file, true to every bit and byte of the original. The systems of memory saving that would not restore the file to exactly the same form are sometimes called data compaction methods rather than data compression.

How is this done? One way is if there is a repetition of a character, such as spaces leading a line or half-line of text, you need only a single control character, the character that is repeated and a character to represent the number of times it is repeated. This means that three characters can represent a whole line of 80 characters, spaces, dashes, you name it. This is called Run Length Encoding (RLE), since it is based on coding the length in bytes say of a run of characters. But although most data compression systems use some form of run length encoding, they also must combine it with other methods.

Another method of data compression uses the observation that in the character code of your alphanumeric code, only about 128 of the 256 ASCII characters are used in text files, the others (codes 128-255) are not used for alphabetical characters but for a variety of graphic characters that vary from computer to computer. In the Sinclair ZX-81/TS1000 for example there is a similar gap in the coding scheme (a non-ASCII scheme), with the codes 67 to 111 (45 character possibilities) not assigned and in the old IBM mainframe EBCDIC, the second bit is usually not toggled giving 64 blank positions in the coding scheme. These blank areas (as far as text coding is concerned) can be used in coding a bunch of double letters. Choosing the most frequent, in the ASCII form of this, if the first bit is on, you are dealing with this blank area of codes (128-255). That leaves 7 bits left over. If you assign the first 4 bits (16 possibilities) to the most common letters in English, e,t,o,a,n,i,r,s,h,d,l,u,c,w,m and space, the most frequent of all and the next 3 bits, or 8 possibilities to space, e,t,o,a,n,i,r then the most frequent letters can be coded, two to a byte, as they occur in the text. There is also no reason to hold out for splitting the available codes by bits. If 7 bits have 128 possible pairs, then instead of splitting them 16-8, by splitting them by bytes you could split them 11 by 11 with 11 left over or 12 by 11. A little thought will show you that the method of splitting can be varied to suit the choice of lists of letters, speed of machine code execution of the microprocessor (which likes to divide by 2 for example, or work in BCD), or any other factor that seems important. Such a text compression system is described in the book, A Programmer's Notebook by D.E. Cortesi, Prentice-Hall, 1983, giving an implementation for CP/M. The author claims a compression to 65-75% of original text file size using his version of this pack utility.

Another approach is to code the text into a bit stream with variable length codes for each character, the most frequent characters having the shorter codes. A 1950's programmer, David Huffman implemented this by having the program analyse the data file to find the order of frequency of characters and then encode them, say with 0 as the most frequent (space), 10 as the next most frequent, 110 as the next, 1110 as the next, 11110 as the next. You can see that the code always puts a 0-bit in the last position. This means that there is no more code to follow and the next bit is the start of a new code (except for the last character which is all 1-bits, and represents the maximum code length which the computer memorizes (last code). Maybe the table on the right will help you see better how it works. Of course this system is quite effective and some version of it is used in many data compression utilities (like the SQ utility originally of CP/M fame). But modern utilities, including the SQ one, use several different compression methods and choose between them on the basis of the text's characterisitics.



Huffman Code Tree

One of the most popular methods is the Lempel-Zev method, used in the ARC utility especially and it relies on detecting recurring sub-strings (words or parts of a word or sentence) and coding them with a number. This system can boost text compression to 30-35% when combined with other methods or 50% alone.